

► Directions

This is a test of how well you are developing your skills in applying mathematical concepts and solving mathematical problems.

- Read each question carefully and decide which of the five alternatives best answers the question.
- Mark your choice on your answer sheet.
- There are relatively easy problems scattered throughout the test. If you find that some questions are difficult, you may skip them and return to them later if you have time.
- Note that not all figures are drawn to scale.

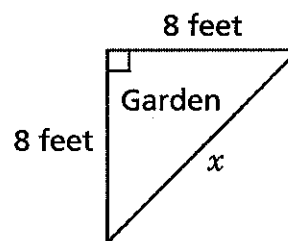
- 1** A high school football stadium has a seating capacity of 4,500. Plans have been made to increase the seating capacity by 25%. Once the new seating is added, what will be the stadium's total seating capacity?

A 4,525
B 4,750
C 5,000
D 5,625
E 6,000

- 2** Mr. Harris can buy 5 calculators at a nearby store for \$105, or he can buy 20 calculators online for \$360, including free shipping. In all, Mr. Harris needs 40 calculators for his classes. Which expression represents the amount (in dollars) he would save by buying the calculators online?

J $105 \times 8 - 360 \times 2$
K $105 \div 5 - 360 \div 20$
L $105 \div 8 - 360 \div 2$
M $[(105 \div 5) \times 8] - [(360 \div 20) \times 2]$
N $[(360 \div 20) \times 2] - [(105 \div 5) \times 8]$

- 3** Mrs. Price has planted a triangular flower garden in the corner of her yard as shown below.



She needs to put a fence along the side of the garden labeled x . What length of fence is needed for that side of the garden?

A $4\sqrt{2}$ feet
B $8\sqrt{2}$ feet
C 16 feet
D 32 feet
E $32\sqrt{2}$ feet

- 4** Chris and Sandy leave Sandy's house at the same time and travel in opposite directions. After 4 hours they are 480 miles apart. Chris traveled 10 miles per hour (mph) faster than Sandy. What is Sandy's average rate of speed?

J 40 mph
K 45 mph
L 55 mph
M 60 mph
N 65 mph

- 5** To get the paint color moss green, 2 parts violet paint is mixed with 3 parts yellow paint. How many parts yellow paint should be mixed with 5 parts violet paint to make moss green paint?

A $3\frac{1}{3}$
B 4
C 6
D 7
E $7\frac{1}{2}$

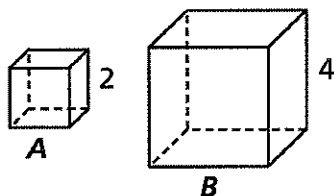
- 6** The table below shows the relationship between x and y .

x	y
-3	18
-1	8
2	-7
6	-27

Which equation represents the relationship?

J $y = -5x - 27$
K $y = -5x + 18$
L $y = -5x + 3$
M $y = -3x - 27$
N $y = -3x + 18$

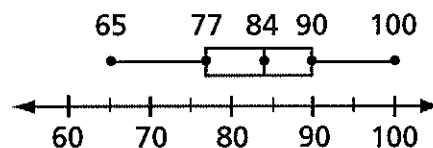
- 7 In the drawing below, A and B are cubes. How does the volume of A compare with the volume of B ?



- A The volume of A is $\frac{1}{16}$ the volume of B .
- B The volume of A is $\frac{1}{8}$ the volume of B .
- C The volume of A is $\frac{1}{4}$ the volume of B .
- D The volume of A is $\frac{1}{2}$ the volume of B .
- E The volume of A is $\frac{3}{4}$ the volume of B .

- 8 The box-and-whisker plot below represents the 20 scores earned on a test.

Students' Test Scores



No two students earned the same score on the test. How many students earned a score from 77 to 90?

- J 4
- K 5
- L 8
- M 10
- N 13



► Directions

This is a test of your abilities to use your skills in mathematical computation.

- After each problem are four answer options and a "None of the above" option.
- Solve each problem and compare your answer with the answers that are given.
- If your answer matches a given answer, fill in the circle on your answer sheet that has the same letter as that answer.
- If your answer is not given, fill in the last circle.

1 $2x + 3y = 36$

$x = 2$

$y =$

A 3

B 6

C 15

D 21

E None of the above

2 $-(8 - 2) =$

J -6

K 6

L -10

M 10

N None of the above

3 32 is 40% of what number?

A 128

B 80

C 12.8

D 8

E None of the above

4 Simplify: $\sqrt{24}$

J 12

K 5

L $2\sqrt{6}$

M Cannot be simplified

N None of the above

5 $\frac{1}{2} + \frac{1}{3} - \frac{1}{5} =$

A 0

B $\frac{1}{5}$

C $\frac{19}{30}$

D $1\frac{1}{30}$

E None of the above

6 Simplify: $\frac{12a^3b^5}{4a^3b^2}$

J $3ab^3$

K $8ab^3$

L $3a^3b^3$

M $8a^3b^3$

N None of the above